



US009462871B2

(12) **United States Patent**  
**Machiorlette et al.**

(10) **Patent No.:** **US 9,462,871 B2**

(45) **Date of Patent:** **Oct. 11, 2016**

(54) **APPLICATOR ASSEMBLY**

(71) Applicant: **Worth Beauty, LLC**, Richmond, VA (US)

(72) Inventors: **Steven C. Machiorlette**, Houston, TX (US); **Edward Darrell Jervey, III**, Richmond, VA (US); **Carol Martin**, Atlanta, GA (US)

(73) Assignee: **Worth Beauty, LLC**, Richmond, VA (US)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **13/955,817**

(22) Filed: **Jul. 31, 2013**

(65) **Prior Publication Data**

US 2014/0034075 A1 Feb. 6, 2014

**Related U.S. Application Data**

(60) Provisional application No. 61/677,861, filed on Jul. 31, 2012.

(51) **Int. Cl.**

**A45D 40/26** (2006.01)

**A45D 34/04** (2006.01)

(52) **U.S. Cl.**

CPC ..... **A45D 40/26** (2013.01); **A45D 34/04** (2013.01)

(58) **Field of Classification Search**

CPC .. A45D 40/26; A45D 40/262; A45D 40/264; A45D 40/265; A45D 40/28; A45D 34/04; A45D 34/042; A45D 34/043; A45D 34/045; A45D 2200/10; A45D 2200/1009; A61B 17/54; B05B 3/1007; A46B 13/00; A46B 13/001; A46B 13/02; A46B 5/0095; A46B 7/00; A46B 7/04; A46B 7/10; A46B 7/042; A46B 7/044; A46B 7/046; A46B 9/021; A46B 9/023; A46B 2200/1046  
USPC ..... 132/200, 218, 119.1, 120, 313, 317, 132/318, 320, 322, 289, 73.5, 73.6, 75.8, 132/333; 15/28, 22.1, 34, 145, 202, 176.1,

15/175, 176.2, 21.1, 22.2; 604/289, 290; 606/131, 271; 401/140, 195, 252–254; 401/6, 24, 25, 118; 607/79, 108–111; 16/422; 403/192, 305, 300, DIG. 4

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,032,664 A \* 3/1936 Raptis ..... 15/172  
2,792,581 A \* 5/1957 Woyton ..... 15/144.1

(Continued)

FOREIGN PATENT DOCUMENTS

CH 663148 11/1987  
GB 1480265 7/1977

OTHER PUBLICATIONS

International Search Report, dated Oct. 31, 2012, from corresponding International Application Serial No. PCT/US2012/033703.

(Continued)

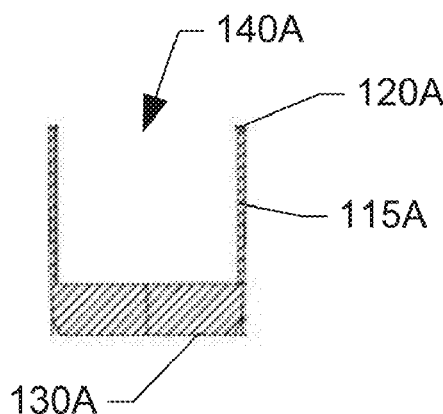
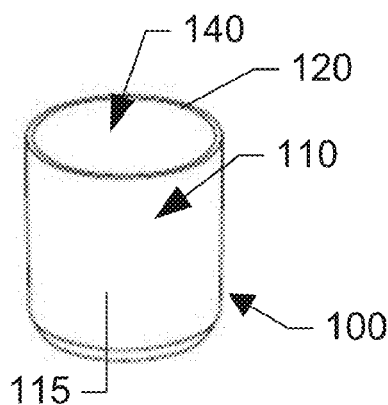
*Primary Examiner* — Rachel Steitz

(74) *Attorney, Agent, or Firm* — Brient Globerman, LLC

(57) **ABSTRACT**

An applicator cup for user with a motorized handle for applying cosmetics. The applicator cup includes an applicator configured to apply a liquid or powder substance (e.g., such as cosmetics, makeup, lotion, sunblock, sunscreen, moisturizer, foundation, concealer, eye shadow, blush, bronzer, cream, or any other appropriate substance) to a user's body. The applicator cup may be configured to enable a user to selectively attach the applicator cup to the motorized handle substantially without touching the applicator. The applicator cup is adapted to enable a user to use the applicator cup in combination with a handle, such as a motorized handle, to apply the liquid or powder substances to the user's body.

**12 Claims, 8 Drawing Sheets**



(56)

## References Cited

## U.S. PATENT DOCUMENTS

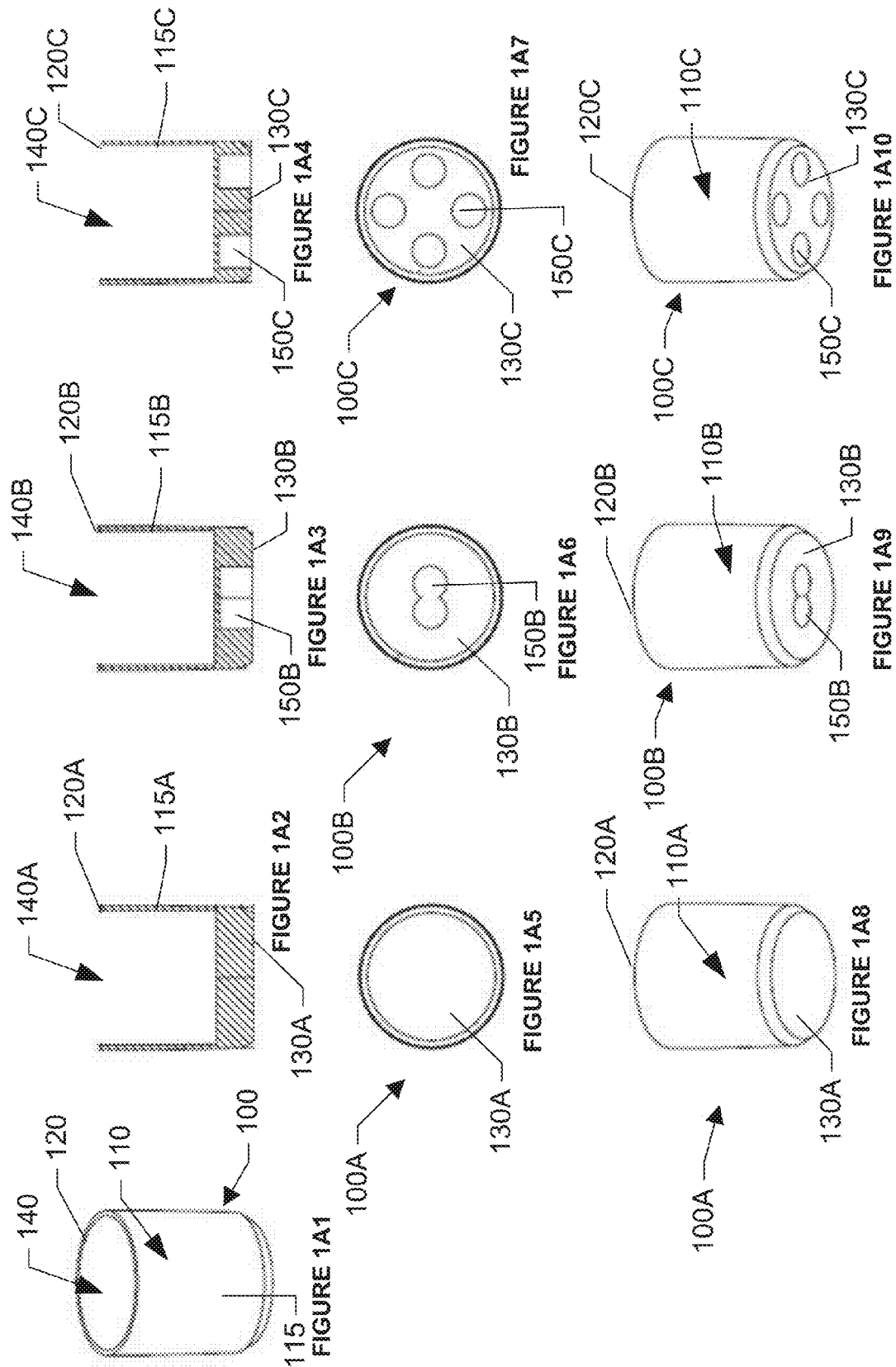
3,030,647 A 4/1962 Peyron  
 3,030,967 A 4/1962 Peyron  
 3,369,265 A \* 2/1968 Halberstadt et al. 15/22.1  
 3,474,795 A \* 10/1969 Lutz et al. 132/119.1  
 4,525,889 A \* 7/1985 Dunau 15/146  
 5,197,496 A \* 3/1993 Nakamura 132/200  
 5,366,314 A \* 11/1994 Young 403/299  
 5,781,955 A \* 7/1998 Hendricks 15/22.1  
 5,954,064 A \* 9/1999 Motherhead 132/262  
 6,039,052 A \* 3/2000 Choi 132/313  
 6,170,108 B1 1/2001 Knight  
 6,230,717 B1 \* 5/2001 Marx et al. 132/308  
 6,321,408 B1 \* 11/2001 Esterson et al. 15/176.2  
 6,510,578 B1 1/2003 Cyr et al.  
 6,546,585 B1 4/2003 Blaustein et al.  
 6,553,601 B1 4/2003 Major  
 6,557,212 B2 \* 5/2003 Huang 16/430  
 6,594,850 B2 7/2003 Libman et al.  
 6,669,397 B1 12/2003 Christion  
 6,671,919 B2 \* 1/2004 Davis 15/167.1  
 6,709,185 B2 3/2004 Lefevre  
 6,775,875 B2 8/2004 Ornelas et al.  
 6,804,852 B1 10/2004 Hay  
 6,872,026 B2 3/2005 Petner  
 6,910,241 B2 6/2005 Wang  
 6,968,590 B2 11/2005 Ponzini  
 7,059,006 B1 6/2006 Huff et al.  
 RE39,185 E 7/2006 Noe et al.  
 7,165,285 B1 1/2007 Hajianpour  
 7,174,898 B2 \* 2/2007 Bosman 132/218  
 7,185,386 B2 3/2007 Segrea  
 7,228,864 B2 \* 6/2007 Tahara 132/313  
 7,296,945 B1 \* 11/2007 Byun 401/286  
 7,377,001 B2 5/2008 McKay  
 7,386,910 B2 6/2008 Minkler et al.  
 7,386,913 B2 6/2008 Jackson  
 7,481,592 B2 1/2009 Gueret  
 7,555,802 B2 7/2009 Bohannon et al.  
 7,574,768 B2 8/2009 Morris et al.  
 7,581,275 B2 9/2009 Rekart  
 7,652,866 B2 1/2010 Barnard et al.  
 7,690,067 B2 4/2010 Schaefer et al.  
 7,695,207 B1 4/2010 Laghi  
 7,698,771 B2 \* 4/2010 Gall 15/22.1  
 7,730,570 B1 6/2010 Billups  
 7,730,571 B2 \* 6/2010 Libman 15/145  
 7,743,451 B2 6/2010 Kim  
 7,752,701 B2 7/2010 Bohannon et al.  
 7,753,609 B2 7/2010 Bouix  
 7,758,525 B2 7/2010 Thiebaut et al.  
 7,774,889 B2 \* 8/2010 Weaver 15/145  
 7,784,144 B2 8/2010 Renault  
 7,789,092 B2 9/2010 Akridge  
 7,832,954 B2 11/2010 Gueret  
 7,909,044 B2 3/2011 Tranchant et al.  
 7,984,528 B2 7/2011 Giocolo et al.  
 8,016,733 B2 9/2011 Kim  
 8,042,216 B2 10/2011 Jochim et al.  
 8,065,774 B2 11/2011 Schiesz et al.  
 8,234,744 B2 8/2012 Seng et al.  
 8,250,715 B2 8/2012 Bagley  
 8,261,398 B2 9/2012 Haigh et al.  
 8,321,987 B2 12/2012 Bagley  
 8,332,983 B1 12/2012 Prohoroff  
 8,353,076 B1 1/2013 Asta  
 8,448,287 B2 5/2013 Ponzini et al.  
 8,495,786 B2 7/2013 Naftal

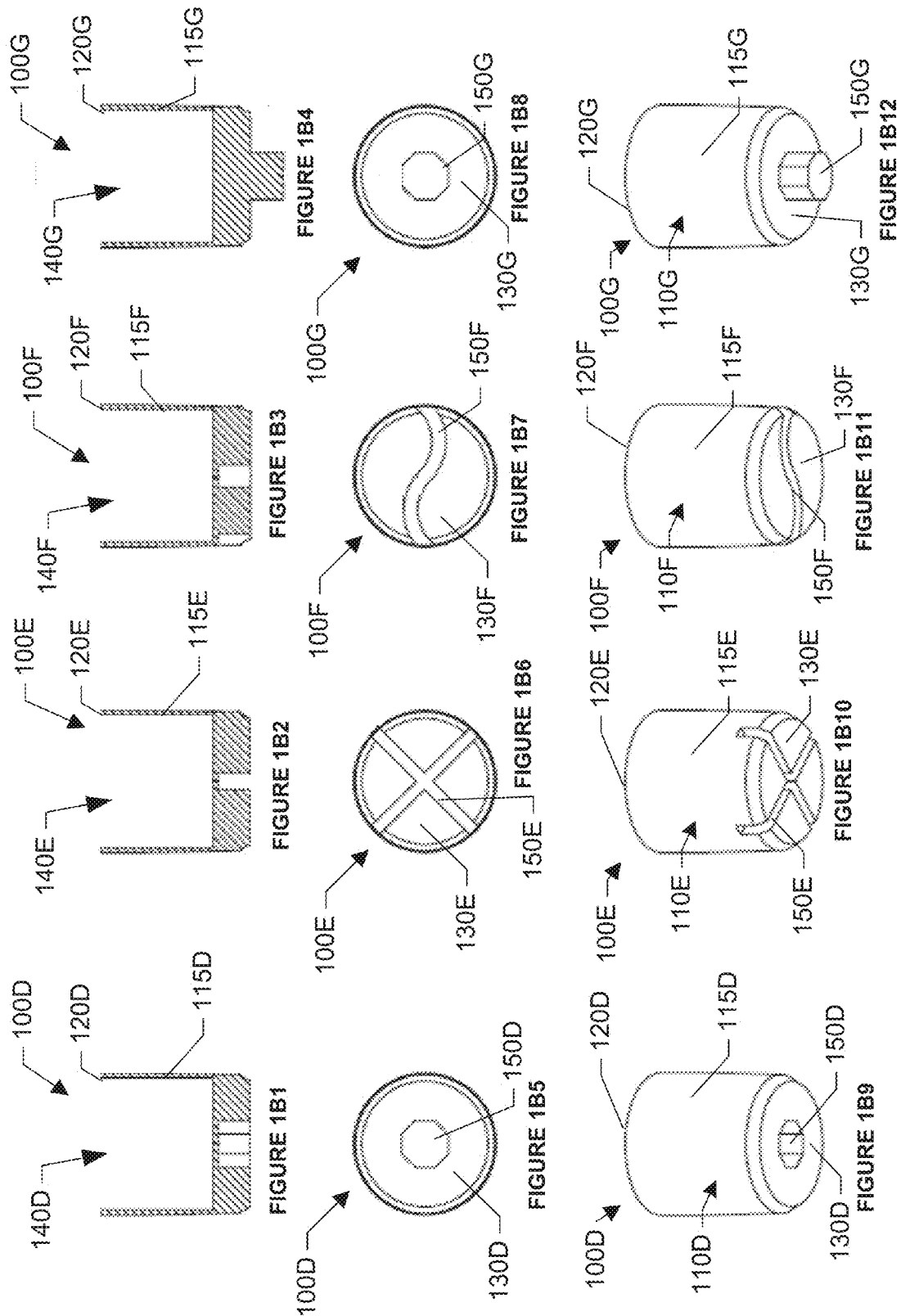
8,566,999 B1 \* 10/2013 Casey 15/146  
 8,777,507 B1 \* 7/2014 Carey 401/284  
 2002/0117423 A1 8/2002 Jackson  
 2003/0019061 A1 1/2003 Libman et al.  
 2003/0075195 A1 \* 4/2003 Saksa 132/200  
 2003/0192564 A1 10/2003 Johnson  
 2003/0217426 A1 \* 11/2003 Petner 15/229.2  
 2004/0003479 A1 1/2004 Ornelas et al.  
 2004/0010877 A1 1/2004 Jackson  
 2004/0016073 A1 1/2004 Knutson  
 2005/0086756 A1 \* 4/2005 Petner 15/145  
 2005/0204497 A1 \* 9/2005 Hillenbrand 15/172  
 2005/0273951 A1 \* 12/2005 Karl 15/22.1  
 2006/0228157 A1 10/2006 Dieudonat  
 2007/0186946 A1 8/2007 Castleberry  
 2007/0294849 A1 \* 12/2007 Bagley 15/171  
 2008/0087297 A1 \* 4/2008 Rahbar-Dehghan A46B 5/0095  
 2008/0138138 A1 \* 6/2008 Gueret 134/1  
 2008/0142032 A1 \* 6/2008 Liberty et al. 401/24  
 2008/0236607 A1 \* 10/2008 Lee 132/200  
 2008/0283083 A1 \* 11/2008 Piao 132/218  
 2009/0025746 A1 1/2009 Kim 132/317  
 2009/0049630 A1 \* 2/2009 Haigh et al. 15/145  
 2009/0124985 A1 \* 5/2009 Hasenoehrl et al. 604/289  
 2009/0272395 A1 11/2009 Carey  
 2009/0280150 A1 11/2009 Kamen et al.  
 2010/0017990 A1 1/2010 Piao  
 2010/0043815 A1 \* 2/2010 Levy et al. 132/200  
 2010/0054849 A1 3/2010 Petit  
 2010/0095973 A1 \* 4/2010 Shrier et al. 132/200  
 2010/0172688 A1 7/2010 Huang  
 2010/0236571 A1 9/2010 Haziza  
 2010/0239352 A1 9/2010 Huang  
 2010/0300470 A1 \* 12/2010 Richardson 132/120  
 2010/0300474 A1 12/2010 Tsai  
 2010/0300479 A1 \* 12/2010 Reishus et al. 132/320  
 2010/0310298 A1 12/2010 Tsai  
 2011/0076085 A1 3/2011 Jollet et al.  
 2011/0223315 A1 \* 9/2011 Lim et al. 427/8  
 2011/0232016 A1 9/2011 Yu et al.  
 2011/0258798 A1 10/2011 Naftal  
 2011/0270274 A1 \* 11/2011 Hull, Jr. 606/131  
 2011/0284019 A1 11/2011 Fairweather  
 2011/0314624 A1 \* 12/2011 Kubo 15/167.1  
 2012/0024308 A1 2/2012 Giron et al.  
 2012/0066853 A1 \* 3/2012 Schiesz et al. 15/145  
 2012/0111350 A1 5/2012 Finfrock  
 2012/0124758 A1 \* 5/2012 Sabisch et al. 15/21.1  
 2012/0152272 A1 6/2012 Solovey  
 2012/0165710 A1 6/2012 Nichols  
 2012/0260931 A1 \* 10/2012 Martin et al. 132/200  
 2012/0304410 A1 12/2012 Chang  
 2013/0014338 A1 1/2013 Park  
 2013/0056016 A1 3/2013 Guay et al.  
 2013/0098382 A1 \* 4/2013 Martin et al. 132/200  
 2013/0125921 A1 \* 5/2013 Celia 132/313  
 2013/0174365 A1 7/2013 Amicon

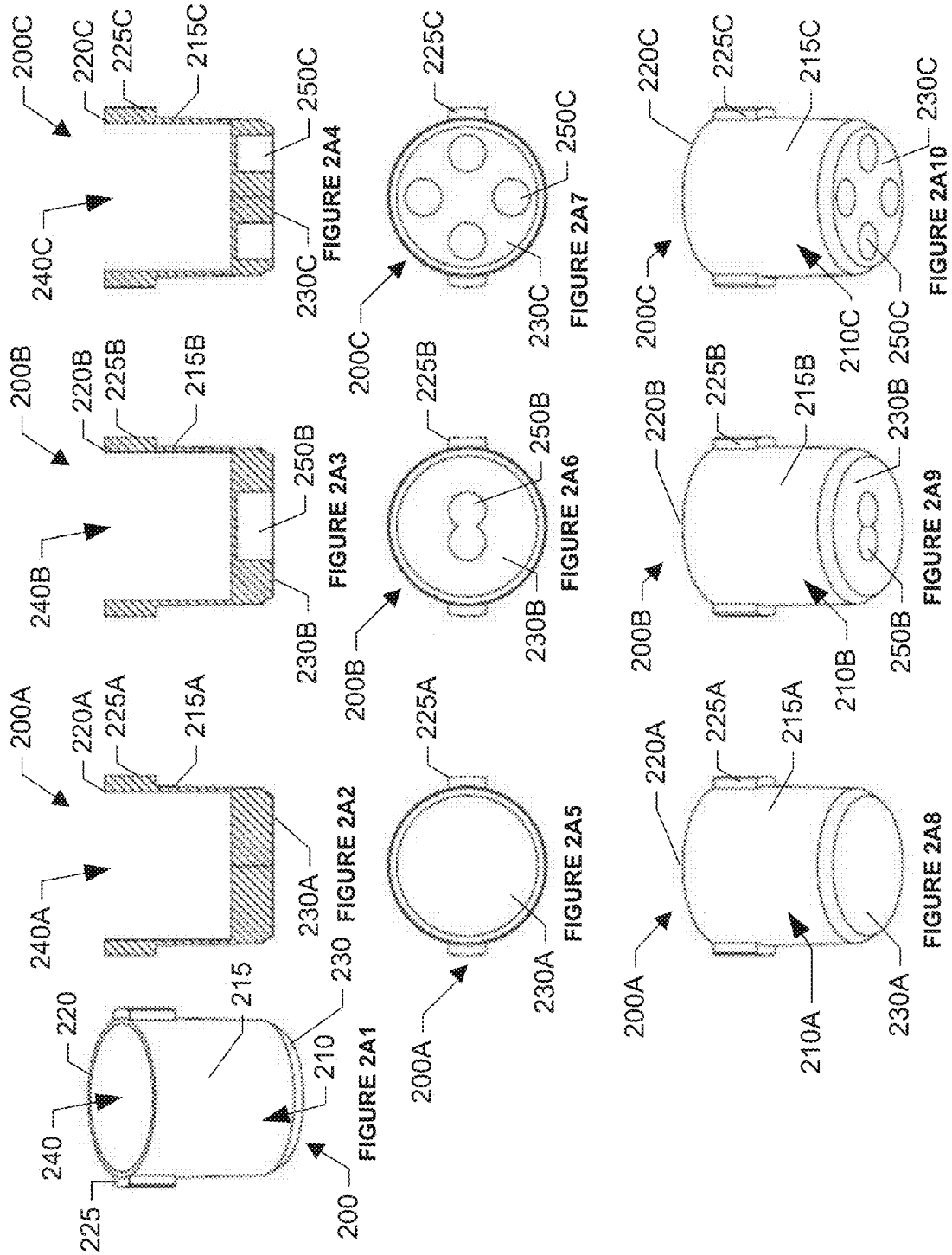
## OTHER PUBLICATIONS

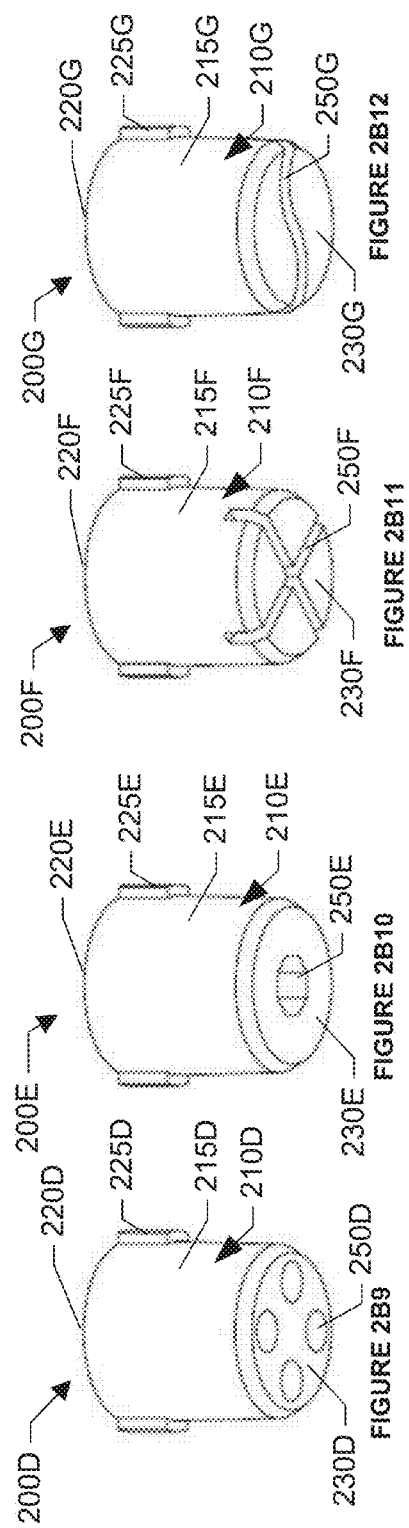
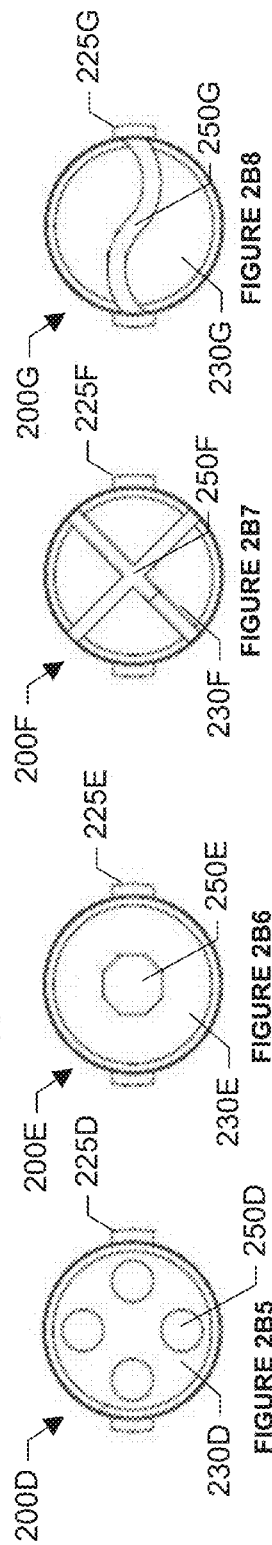
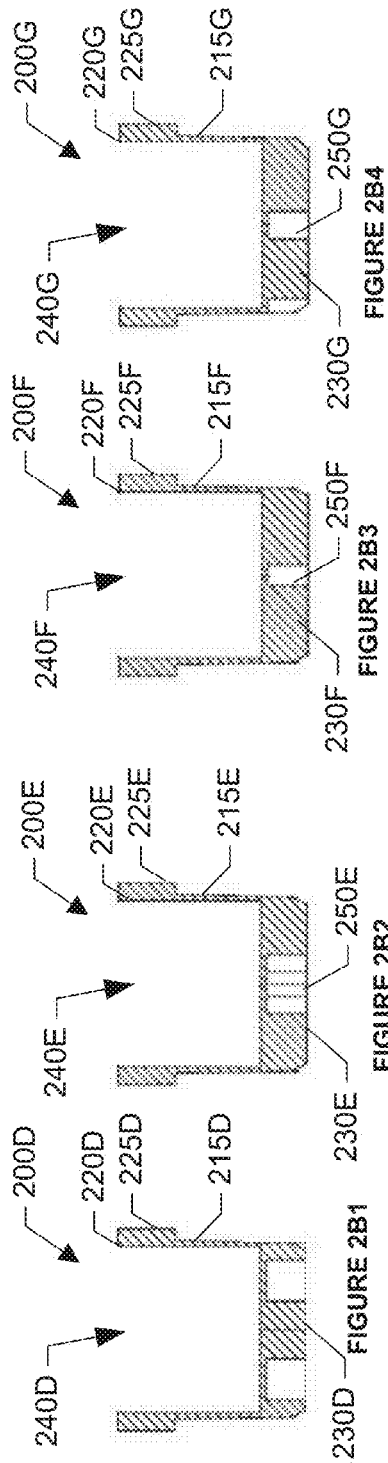
International Preliminary Report and Written Opinion, dated Oct. 24, 2013, from corresponding International Application Serial No. PCT/US2012/033703.  
 European Search report, dated Aug. 18, 2015, from corresponding European Application No. EP12771979.7.

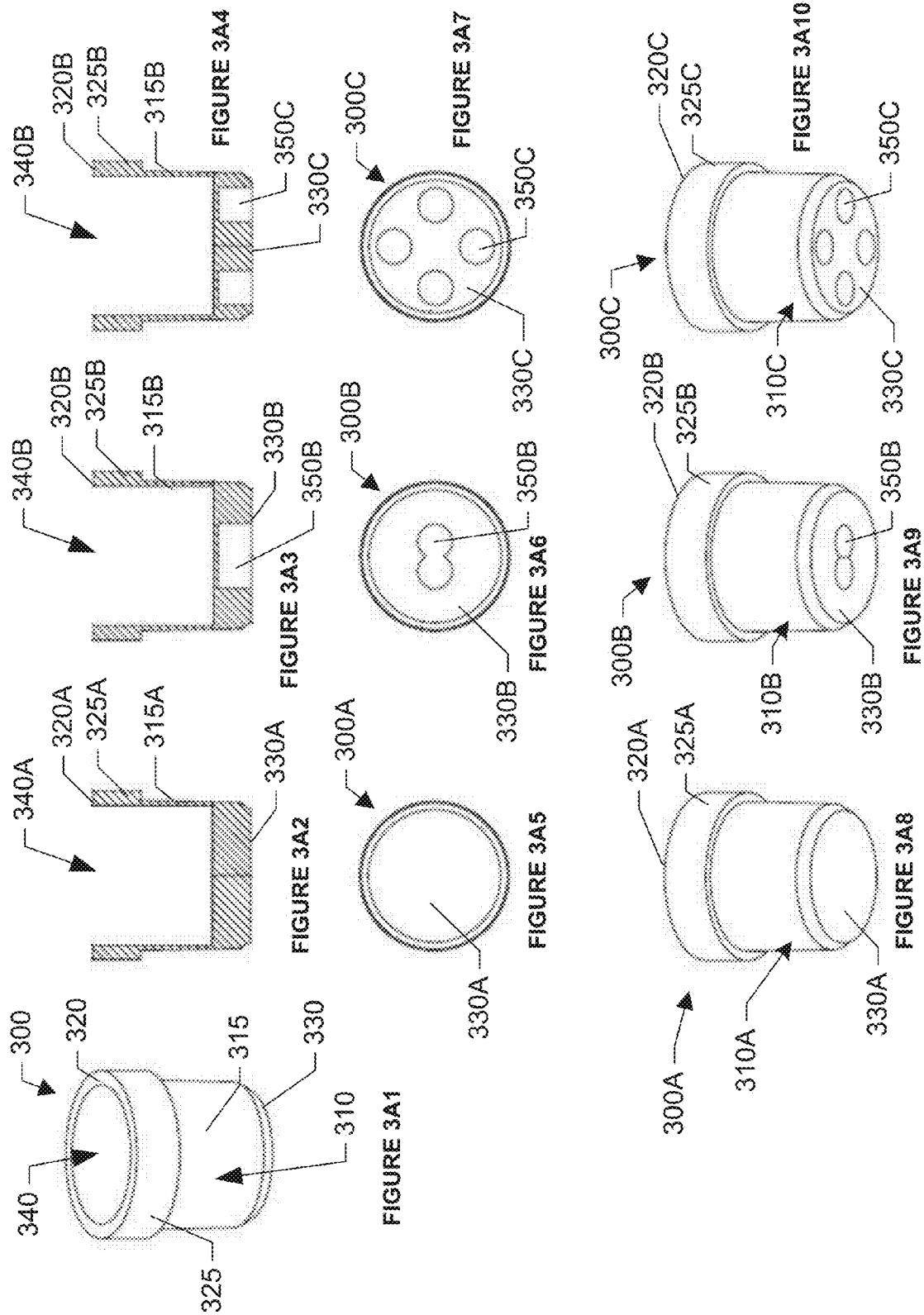
\* cited by examiner

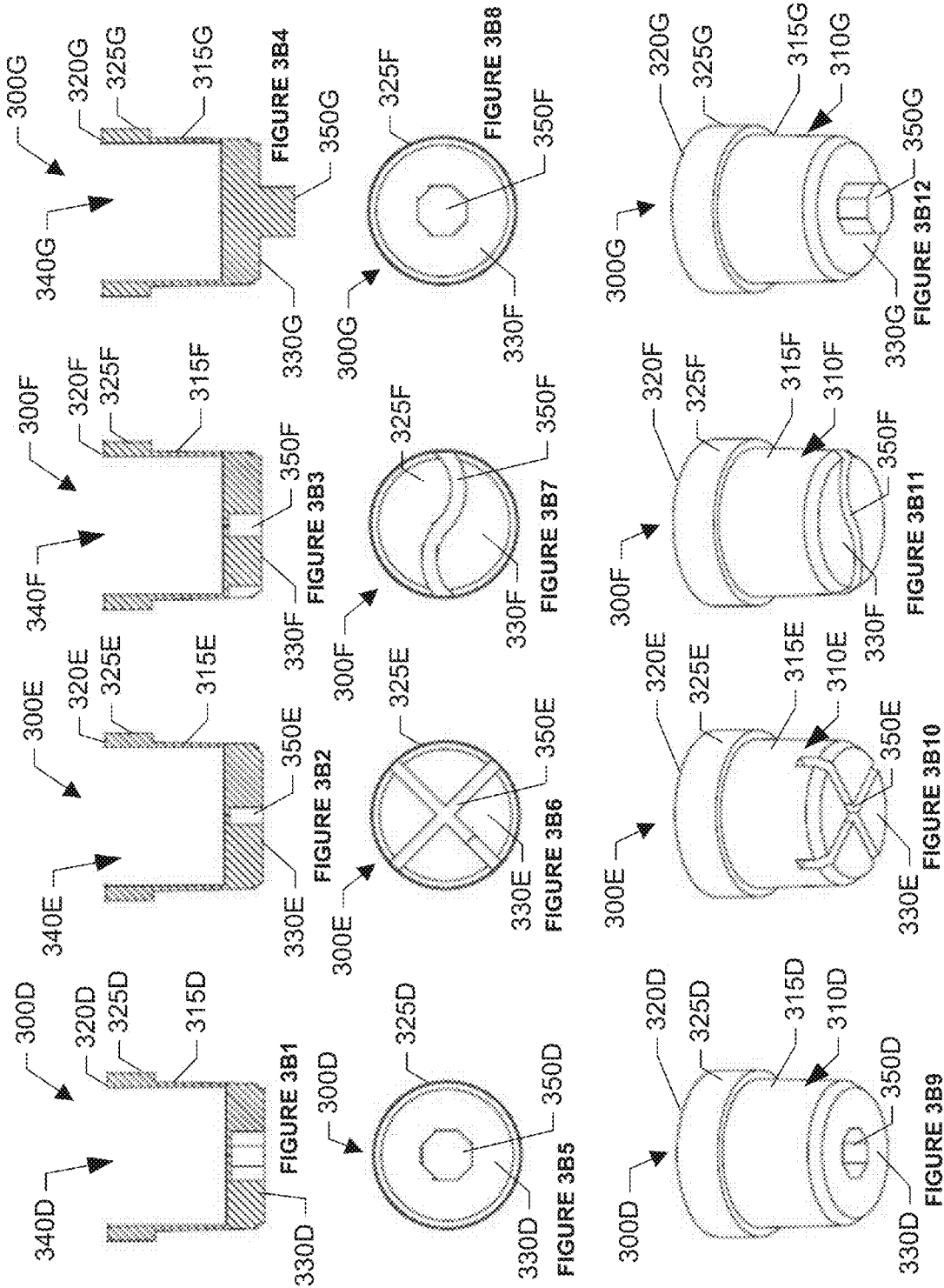




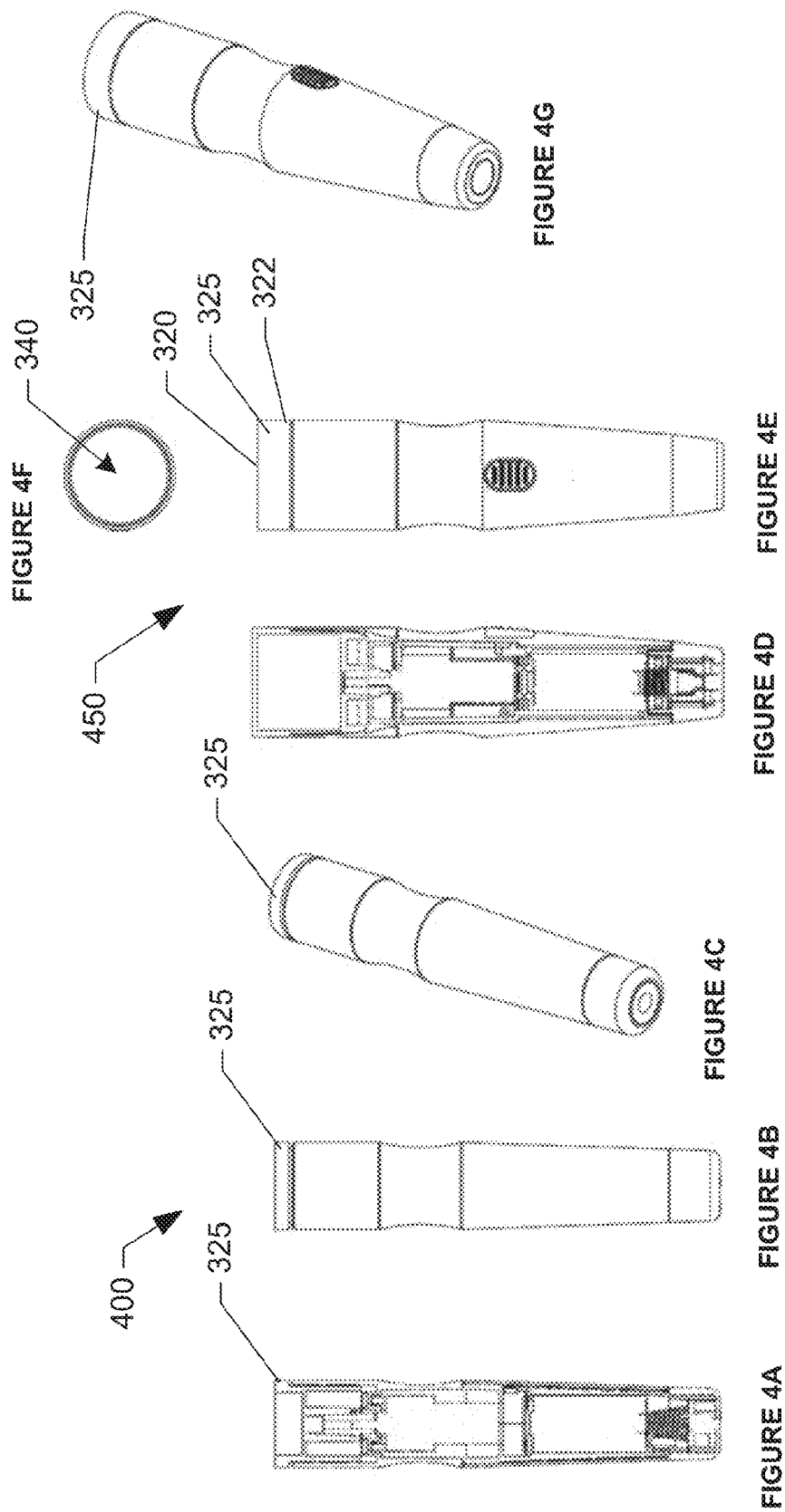












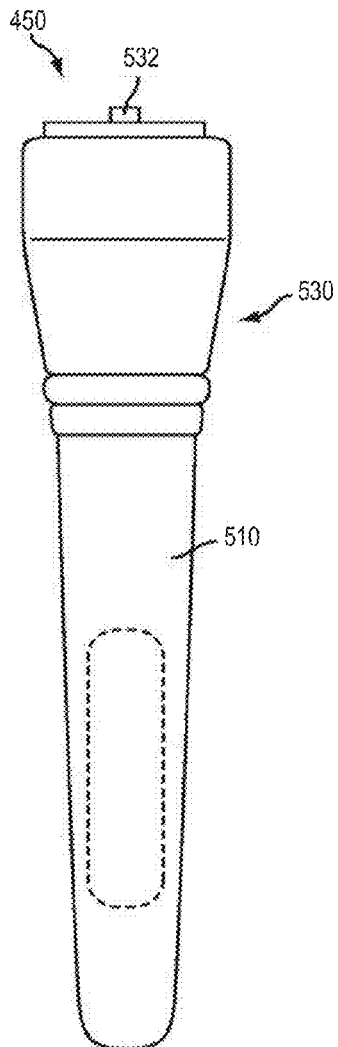


FIGURE 5A

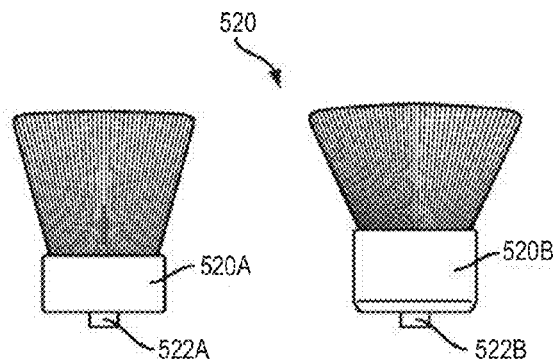


FIGURE 5B

FIGURE 5C

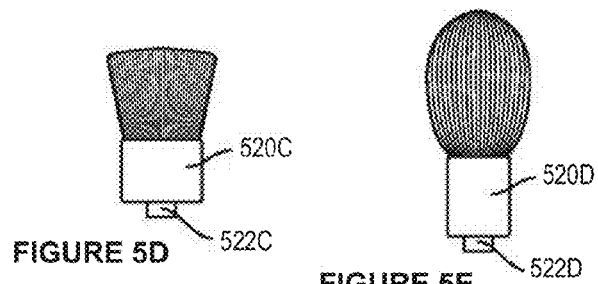


FIGURE 5D

FIGURE 5E

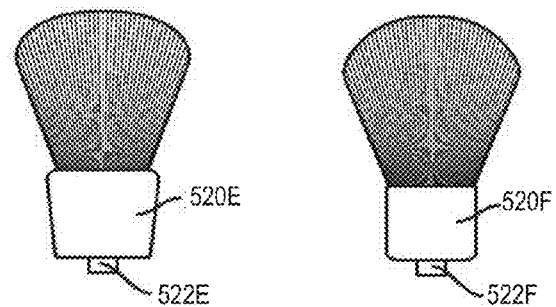


FIGURE 5F

FIGURE 5G

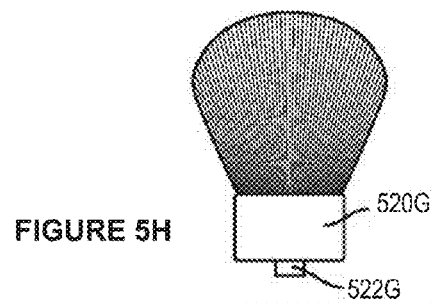


FIGURE 5H

1

**APPLICATOR ASSEMBLY****CROSS REFERENCE TO RELATED APPLICATIONS**

This application claims the benefit of U.S. Provisional Patent Application No. 61/677,861, filed Jul. 31, 2012, entitled "Applicator Assembly," which is incorporated herein by reference in its entirety.

**BACKGROUND**

People may desire improved cosmetic and other applicators. Accordingly there is a need for improved systems and methods to address these issues.

**SUMMARY**

An applicator assembly, according to various embodiments, comprises a substantially cylindrical applicator cup that defines an applicator-receiving recess adjacent a top face of the cup, an attachment recess adjacent a bottom face of the cup, and at least one finger grip disposed adjacent an upper portion of the cup. In particular embodiments, the applicator assembly further comprises an applicator disposed at least partially within the applicator-receiving recess. In particular embodiments, the at least one finger grip is adapted to allow a user to selectively attach and remove the applicator cup from a handle substantially without touching the applicator.

A method of applying cosmetics, according to various embodiments, comprises providing a substantially cylindrical applicator cup defining an applicator-receiving recess adjacent a top face of the cup, an attachment recess adjacent a bottom face of the cup, and at least one finger grip disposed adjacent an upper portion of the cup; and comprising an applicator disposed at least partially within the applicator-receiving recess. In various embodiments, the at least one finger grip is adapted to allow a user to selectively attach and remove the applicator cup from a handle substantially without touching the applicator. In particular embodiments, the method further comprises providing a motorized handle, the motorized handle comprising a rotating portion that substantially corresponds to the attachment recess and is configured to cause the applicator cup to rotate at least partially in response to rotation of the rotating portion when the applicator cup is attached to the motorized handle. In various embodiments, the method further comprises applying cosmetic to the applicator, attaching the applicator cup to the motorized handle, activating the motorized handle, and applying the cosmetic to a desired area of a user's body.

An applicator cup, according to various embodiments, comprises a substantially cylindrical cup body portion comprising a substantially circular top face and a substantially circular bottom face. In particular embodiments, the cup body portion defines a substantially circular applicator receiving recess adjacent the top face and an attachment recess adjacent the bottom face. In various embodiments, the applicator cup further comprises at least one finger grip extending substantially outward from an outer surface of the cup body. In particular embodiments, the applicator cup is configured to enable a user to at least partially insert an applicator into the applicator receiving recess, and to at least partially insert the applicator cup into a handle.

**BRIEF DESCRIPTION OF THE DRAWINGS**

Various embodiments of an applicator assembly are described below. In the course of this description, reference

2

will be made to the accompanying drawings, which are not necessarily drawn to scale, and wherein:

FIGS. 1A1-1B12 show a first embodiment of an applicator cup for use with a makeup brush, or other suitable applicator, such as one of the makeup brushes that are described in U.S. patent application Ser. No. 13/087,212, entitled "Cosmetic Applicator Systems," which was filed on Apr. 14, 2011, and which is hereby incorporated by reference in its entirety. These figures show the applicator cup with various alternative attachment recesses and, in one embodiment, an attachment shaft. In these embodiments, the applicator cup includes no finger grip adjacent its upper portion. The various structural features of the applicator cup are described in greater detail below.

FIGS. 2A1-2B12 show a second embodiment of an applicator cup with various alternative attachment recesses and, in one embodiment, an attachment shaft. In these embodiments, the applicator cup includes two small finger grips adjacent its upper portion that, in various embodiments, are dimensioned to allow a user to grasp the applicator cup without touching an applicator that is positioned adjacent the applicator cup.

FIGS. 3A1-3B12 show a second embodiment of an applicator cup with various alternative attachment recesses and, in one embodiment, an attachment shaft. In these embodiments, the applicator cup includes a single finger grip that extends circumferentially around (e.g., partially or entirely circumferentially around) its upper portion. In various embodiments, this finger grip is dimensioned to allow a user to grasp the applicator cup without touching an applicator that is positioned adjacent the applicator cup.

FIGS. 4A-4G shows exemplary handles for use with an applicator cup, such as the applicator cups shown in FIGS. 1A1-1B12, FIGS. 2A1-2B12, and FIGS. 3A1-3B12.

FIGS. 5A-5H is an illustration of a motorized brush su ort and a plurality of cosmetic brushes, according to a particular embodiment.

**DETAILED DESCRIPTION**

Various embodiments will now be described more fully hereinafter with reference to the accompanying drawings, in which various relevant embodiments are shown. The invention may, however, be embodied in many different forms and should not be construed as limited to the embodiments set forth herein. Rather, these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art. Like numbers refer to like elements throughout.

**Applicator Cup**

An applicator cup **100**, **200** and **300** according to various embodiments are shown in FIGS. 1A1-1B12, 2A1-2A12 and 3A1-3A12, respectively. As shown in these figures, the applicator cup **100**, **200** and **300** may comprise a substantially cylindrical (e.g., cylindrical), at least partially hollow, cup body portion **110**, **210** and **310** that includes a side wall **115**, **215** and **315**, a top face **120**, **220** and **320**, and a bottom face **130**, **230** and **330**, respectively. In particular embodiments, the cup body portion **110**, **210** and **310** may have a substantially circular (e.g., circular) cross section. The cup body portion **110**, **210** and **310** may define, in various embodiments, an applicator-receiving recess **140**, **240** and **340** adjacent (e.g., extending through) the cup's top face **120**, **220** and **320**, and an attachment recess adjacent (e.g., extending through) the cup's bottom face **130**, **230** and **330**, respectively. In some embodiments, such as the embodiments shown in FIGS. 2A1-2B12, the applicator cup **200**

includes at least one finger grip **225A-225G** disposed adjacent the cup's top face **220A-220G**. The finger grip **225A-225G** may be, for example, a protrusion that extends outwardly from the cup body portion's outer surface.

#### Cup

As shown in FIG. **1A1**, the cup's body portion **110** may be substantially cylindrical (e.g., cylindrical) with a diameter between, for example, about 20 mm and about 40 mm. In particular embodiments, the cup's body portion **110** may have a diameter of about 29.4 mm. In various embodiments, the cup's body portion **110** may have a height between about 20 mm and about 40 mm. In particular embodiments, the cup's body portion **110** has a height of 31.8 mm. In the embodiment shown in FIG. **1A**, the cup's body portion **110** defines a top **120** and bottom face **130** and defines a beveled edge on the outer circumference of the edge of the cup's bottom face **130**. In other embodiments, the cup's body portion **110** may define any other suitable edge (e.g., round or square) on the outer circumference of the edge of the cup's bottom face **130**.

#### Applicator-Receiving Recess

In the embodiments shown in FIGS. **1A1**, **2A1** and **3A1**, the cup's body portion **110**, **210** and **310** defines an applicator-receiving recess **140**, **240** and **340**, respectively that is substantially centered (e.g., centered) relative to the cup's top face **120**, **220** and **320**. In the embodiments shown in these figures, the applicator-receiving recess **140**, **240** and **340** is substantially cylindrical (e.g., cylindrical) and has a diameter that is between about 15 mm and 39 mm. In particular embodiments, the applicator-receiving recess **140**, **240** and **340** has a diameter of about 28.1 mm. In certain embodiments, the applicator-receiving recess **140**, **240** and **340** has a diameter that is about 0.5 mm less than the cup's diameter. In the embodiments shown in these figures, the applicator-receiving recess **140**, **240** and **340** is between about 18 mm and 39 mm deep. In particular embodiments, the applicator-receiving recess **140**, **240** and **340** is about 24 mm deep. In other embodiments, the applicator-receiving recess **140**, **240** and **340** may be any depth suitable for housing an applicator.

In various embodiments, the cup's body portion **110**, **210** and **310** may be adapted to maintain an applicator at least substantially within (e.g., within) the respective applicator-receiving recess **140**, **240** and **340**. The applicator may, for example, comprise a brush, sponge, or any other suitable applicator for applying either a liquid or powder substance (e.g., such as cosmetics, makeup, lotion, sunblock, sunscreen, moisturizer, foundation, concealer, eye shadow, blush, bronzer, cream, or any other appropriate substance). In various embodiments, an applicator may be adapted for applying substances in a plurality of forms (e.g., liquid, powder, or any other suitable form). In particular embodiments, the applicator is adapted to apply cosmetics or lotions while rotating. The applicator may, for example, be adapted to substantially maintain its shape and structure after repeated use.

The applicator may include a brush comprising bristles of any suitable length (e.g., between about 10 mm and about 80 mm). The bristles may be made of any suitable material (e.g., natural or synthetic material).

#### Attachment Recess

As shown in FIGS. **1A1-1B12**, the cup's body portion **110B-110F** may define one or more attachment recesses (e.g., attachment recesses **150B-150F**, respectively) that are suitable for use in attaching the applicator cup **110B-110F** to a handle when the cup's body portion **110B-110F** is attached to the handle. The handle may, for example, be a motorized

handle or any other handle suitable for use in applying cosmetics. Referring briefly to FIGS. **4A-4C**, an exemplary handle **400** and an exemplary motorized handle **450** are shown.

As may be understood from FIGS. **1A1-1B12**, the attachment recess **150B-150F** may be defined adjacent the cup's respective bottom face **130B-130F**. The attachment recess **150B-150F** may be sized to receive a corresponding portion (e.g., a rotating portion) of a motorized handle when the applicator cup **100A-100F** is attached to the motorized handle. In various embodiments, the engagement between this portion of the motorized handle and the applicator cup **100A-100F** causes the applicator cup **100A-100F** to rotate when the motorized handle's rotating portion rotates. In particular embodiments, the applicator cup **100A-100F** may define an attachment recess that is between about 2 mm deep and about 14 mm deep.

FIGS. **1A1-1B11** show various embodiments of the applicator cup **100A-100G** having different attachment recess configurations **150B-F**. These exemplary embodiments are described more fully below:

#### No Attachment Recess

In particular embodiments, the applicator cup **110** may define no attachment recess (See applicator cup **110A** in FIGS. **1A1**, **1A2**, **1A5** and **1A8**). In such embodiments, the applicator cup **110** may be adapted to be attached to a brush without the use of an attachment recess.

#### Figure Eight

The brush cup **100B** shown in FIGS. **1A3**, **1A6** and **1A9** defines an attachment recess **150B** that is substantially centered (e.g., centered) adjacent the cup's bottom face **130B**, and that has a profile that includes two at least partially overlapping circles.

#### Multi-Hole

The brush cup **100C** shown in FIGS. **1A4**, **1A7** and **1A10** defines four attachment recesses **150C** whose profiles are substantially circular (e.g., circular). The attachment recesses **150C** are defined in an outer portion of the cup's bottom face **130C**. In the embodiment shown in this figure, the cup **110C** defines the four attachment recesses **150C** that are substantially evenly-spaced (e.g., evenly-spaced) about a circle having a radius that is substantially centered (e.g., centered) on the cup's bottom face **130C**. In other embodiments, the cup **110C** may define any other suitable plurality of attachment recesses (e.g., two, three, etc.).

#### Multi-Sided

The brush cup **100D** shown in FIGS. **1B1**, **1B5** and **1B9** defines an attachment recess **150D** that is substantially centered (e.g., centered) adjacent the cup's bottom face **130D**, and that has a profile that is substantially octagonal (e.g., octagonal). In various embodiments, the cup **110D** may define an attachment recess that is substantially centered (e.g., centered) adjacent the cup's bottom face **130D**. In this embodiment, the profile of the attachment recess is that of a shape with any suitable number of sides (e.g., triangular, square, pentagonal, hexagonal, heptagonal, etc.).

#### Cross

The brush cup **100E** shown in FIGS. **1B2**, **1B6** and **1B10** defines two attachment recesses **150E** that are substantially rectangular (e.g., rectangular) and substantially perpendicular (e.g., perpendicular) to one another (e.g., so that the recesses **150E** cooperate to form a cross). In this embodiment, the two attachment recesses are each substantially parallel (e.g., parallel) to a radius of the cup's bottom face **130E**.

5

Serpentine

In the embodiment **100F** shown in FIGS. **1B3**, **1B7** and **1B11**, the cup **110F** defines an attachment recess **150F** that is substantially S-shaped (e.g., S-shaped).

Shaft

In particular embodiments, such as the embodiment **100G** shown in FIGS. **1B4**, **1B8** and **1B12**, the cup **110G** comprises an attachment shaft **150G** (rather than an attachment recess). In the embodiment shown in this figure, the attachment shaft **150G** extends substantially perpendicularly (e.g., perpendicularly) from and is substantially centered relative to the cup's bottom face **130G**. In the embodiment **100G** shown in this figure, the attachment shaft **150G** has a profile that is substantially octagonal (e.g., octagonal) and that extends about 7 mm from the cup's bottom surface. In other embodiments, the attachment shaft **150G** may extend between about 3 mm and about 15 mm from the cup's bottom surface.

In various embodiments, the attachment shaft **150G** may have any other suitable profile. For example, the attachment shaft **150G** may have a profile that is similar to any of the profiles of the attachment recesses described above (e.g., figure eight, multi-hole, multi-sided, cross, or serpentine).

Finger Grip

In various embodiments, such as the embodiment shown in FIGS. **2A1-2B12**, the applicator cup's body portion **210A-210G** may comprise at least one finger **225A-225G** grip that extends radially outward from the cup's outer surface. In the embodiment shown in FIGS. **2A-2B**, the cup's body portion **210A-210G** comprises two finger grips **225A-225G** that are disposed on opposing faces adjacent the cup's upper portion **220A-220G**. In various embodiments, the finger grips **225A-225G** may have a width (between the portion of the finger grip that engages the rest of the cup, and the outer portion that a user would engage when using the finger grip to lift the cup) between about 5 mm and 15 mm. In particular embodiments, the finger grips **225A-225G** may have a width of about 7 mm. In various embodiments, the finger grips **225A-225G** have a height of between about 4 mm and about 15 mm. In particular embodiments, the finger grips **225A-225G** have a height of about 9.6 mm.

It should be understood that finger grips **225A-225G** may, for example, have any width and height suitable for allowing a user to grip the applicator cup's body portion **210A-210G** using the finger grips **225A-225G** (e.g., by squeezing their thumb and index finger against the respective finger grips in order to lift or move the cup). In particular embodiments, the finger grips **225A-225G** may be of a suitable size and shape to maintain the user's fingers spaced apart from the applicator when handling the applicator cup.

In certain embodiments, such as the embodiment shown in FIGS. **3A1-3B12**, the applicator cup body portions **310A-310G** may comprise a finger grip **325A-325G** that extends along substantially the entire circumference of the cup's outer surface. In the embodiment shown in these figures, the finger grip **325A-325G** is disposed adjacent the cup's upper portion **320A-320G**.

In various embodiments, the finger grips may be adapted to allow a user to insert the applicator cup **200A-200G** or **300A-300G** into, or remove it from, a motorized handle substantially without touching the applicator so that a lower portion **322** of the finger grip is adjacent the motorized handle (FIGS. **4A-4G**). In particular embodiments, the applicator cup **210A-210G** is configured to enable a user to use the applicator cup **210A-210G** in conjunction with the motorized handle to apply cosmetics. In various embodiments, the applicator cup **210A-210G** is configured to rotate

6

at a speed of between about 92 and about 489 revolutions per minute when used in conjunction with the motorized handle. In particular embodiments, the motorized handle may be configured to apply a torque of between about 6 and about 34 ounce inches. In various embodiments, the motorized handle may be configured to enable the user to adjust the speed of the motorized handle's motor. In other embodiments, the motorized handle may be configured to enable a user to adjust a torque that the motorized handle applies to the applicator cup **210A-210G** when the applicator cup **210A-210G** is being used in conjunction with the motorized handle.

In particular embodiments, the finger grips **225A-225G** may be adapted to allow the user to move, install, uninstall, and/or otherwise use the applicator cup **200A-200G** substantially without touching any of the substance that is to be applied with the applicator (e.g., makeup, lotion, liquid foundation, powder foundation, concealer, eye shadow, blush, bronzer, or any other substance that may be applied with the applicator). In various embodiments, the applicator may be adapted for longer use as a result of avoiding exposure to contaminants (e.g., oils) on the user's hands.

Exemplary Use

The applicator cup described above may be utilized as part of a method of applying any of a plurality of cosmetics or other substances to a user's skin. The user may first select an applicator assembly that includes: (1) an applicator cup; and (2) an applicator that is installed in the applicator cup, so that the applicator extends beyond the end of the applicator cup's top face. The applicator may be, for example, a particular brush or sponge that is suitable for applying the particular cosmetic, or other substance to the user's skin. Suitable substances include both powder or liquid substances, for example, lotion, liquid foundation, powder foundation, concealer, eye shadow, blush, bronzer, or any other suitable substance. The user may then pick up the applicator assembly by lifting it via the finger grips on the sides of the applicator cup.

Next, the user may attach the applicator assembly, attachment recess side first, to a suitable handle. The handle may, for example, be a motorized handle or any other handle suitable for applying cosmetics or other substances (e.g., a non-motorized handle). The handle may define a substantially circular (e.g., circular) recess with a diameter that is sufficiently large to allow the applicator assembly to be easily inserted into the recess and to rotate within the recess, and that is sufficiently small to allow the applicator assembly to fit snugly within the recess once inserted. While inserting the cup into the handle's recess, the user may align the cup's attachment recess(es) with the handle's corresponding attachment protrusion(s). In particular embodiments, when the applicator assembly is installed on the handle, the attachment protrusion(s) may extend from the handle into the handle's recess(es). In various embodiments, such as in the case of a makeup brush assembly that includes a motorized handle, the attachment protrusions may be adapted to rotate about an axis, which may, for example, be substantially centered (e.g., centered) within and run substantially perpendicular to (e.g., perpendicular to) the handle's recess. An example of a suitable handle for use with the applicator assembly is described in U.S. patent application Ser. No. 13/087,212, entitled "Cosmetic Applicator Systems," which was filed on Apr. 14, 2011, and which—as noted above—is hereby incorporated by reference in its entirety.

As illustrated in FIGS. **5A-5H**, a motorized brush support (such as the motorized handle **450** discussed above with reference to FIGS. **4A-4G**) may be compatible with a set of

cosmetic brushes **520** for applying a cosmetic to a surface area such as the face. The motorized brush support **450**, as shown, includes a base portion (in this case, a handle **510**), a head assembly **530** and a coupling assembly **532**. The coupling assembly **532** may extend away from the head assembly **530**, as shown, or it may be integrated within the head assembly **530**. In some embodiments, each of the cosmetic brushes **520A-520G** may include a connector **522A-522G**, respectively, for attaching to or otherwise engaging with the coupling assembly **532**. The connector **522A-522G** may extend below the base of a brush, as shown, or it may be integrated within the base of the brush. The connector **522A-522G** may include any type of connector or fastening mechanism that fits or otherwise engages with the coupling assembly **532**. Any of a variety of combinations of connectors **522A-522G** and coupling assemblies **532** known to those skilled in the art may be used.

Any of a variety of cosmetic brushes (such as one or more specialty makeup brushes) may be collected in a set **520** for use with any particular application. In an exemplary embodiment, the set of cosmetic brushes **520**, as illustrated, may include one or more of the following brush types: a Liquidator Brush **520A**, a Powder Foundation Brush **520B**, an Under-Eye Concealer Brush **520C**, an Upper Eyelid Shadow Brush **520D**, a Blush Blaster Brush **520E**, a Disco Shine Brush **520F**, and a Bronzer Brush **520G**.

The Liquidator Brush **520A** may be used to apply and distribute a liquid or cream foundation. The Powder Foundation Brush **520B** may be used to apply and distribute a powder foundation or base. The Under-Eye Concealer Brush **520C** may be used to apply and distribute a concealer compound under the eyes and other areas, as desired. The Upper Eyelid Shadow Brush **520D** may be used to apply and distribute a shadow compound to the upper eyelids. The Blush Blaster Brush **520E** may be used to apply and distribute a blush compound to the “S zone” or cheeks and other areas, as desired. The Disco Shine Brush **520F** may be used to apply and distribute a decorative compound such as a colored powder or glitter to any area. The Bronzer Brush **520G** may be used to apply and distribute a bronzing compound to any area. In use, any of the set of brushes **520** may be used to apply, distribute, and blend any of these compounds to any area of the face.

The cosmetic brushes in a set **520** may include any number of different brush types. A brush may include a base, a collection of bristles, and a ferrule or other component for holding the bristles to the base. The bristles may be made of natural animal hair, synthetic fibers, or a blend. The base of the brush, in some embodiments, may be made of different materials, in various colors. The brush may include one or more words or indicia correlated to a particular manufacturer, product name, trademark, business, or social cause. The set of brushes **520** may be color coded or otherwise grouped by a visible feature that indicates to the user each brush’s intended use and/or its association with a particular set of brushes. Each cosmetic brush may be characterized by its particular features; for example, its overall size and shape, the shape of its base, the ferrule type, the bristle composition (natural, synthetic or blend, for example), the bristle length, the bristle color, the shape of each bristle end (rounded or blunt, smooth or rough, for example), the overall shape made by all the bristles together (fan-shaped, cone-shaped, flat, rounded, pointed, and the like), the bristle spacing and density (measured, for example, in bristles per square inch) and the bristle stiffness (from rigid bristles like a toothbrush, to bristles as limp as cotton thread). For example, in the context of face makeup, a first cosmetic

brush (such as The Liquidator Brush **520A** illustrated in FIG. **5B**) may be relatively large in size, flat across the end of the bristles, and relatively rigid in stiffness. A second cosmetic brush (such as The Upper Eyelid Shadow Brush **520D** illustrated in FIG. **5E**) may be relatively small in size, rounded in shape across the end, and softer in stiffness.

The user may then apply makeup using the handle and applicator cup assembly by, for example, placing cosmetic on the applicator, activating the motorized handle, and applying cosmetic to the desired area of the body using the rotating applicator). When the user wishes to apply makeup using a different applicator, the user may simply detach the current applicator assembly from the handle, attach a new applicator assembly to the handle, and proceed as described above.

#### Other Suitable Uses

##### Stand-Alone Applicator Cup

In particular embodiments, an applicator cup such as the applicator cup described above may be utilized as a stand-alone applicator (e.g., may be suitable for applying a substance without attaching the applicator cup and applicator to a separate handle). In such embodiments, a user may apply a substance (e.g., makeup, cosmetic, lotion, cream, or other suitable substance) by installing an appropriate applicator in the applicator cup, and applying the substance by gripping the applicator cup (e.g., using their fingers).

##### Applicator Cup Combined with Recess-Free Handle

In particular embodiments, the applicator cup is adapted for use with a suitable handle that does not define a recess for accepting the applicator cup. In such embodiments, the applicator cup may be adapted to attach to an end of the handle such that the applicator cup is at least partially exposed (e.g., fully exposed) when attached to the handle.

##### Upright Storage

In particular embodiments, the applicator cup is adapted to stand substantially upright (e.g., upright) on its bottom face when placed, for example, on a flat support surface (e.g., a counter, table, or other suitable surface). In such embodiments, an applicator installed in the applicator cup may sit upright within the applicator cup’s applicator-receiving recess when the applicator cup is standing on its bottom face. In particular embodiments, placing the applicator cup in a position in which the applicator cup is standing on its bottom face may at least substantially (e.g., substantially) protect the integrity of the installed applicator (e.g., by allowing the applicator to stand in a rested, upright position in which the applicator does not come into contact with the support surface (e.g., as the applicator would if it were rested, for example, on its side)).

## CONCLUSION

Many modifications and other embodiments of the invention will come to mind to one skilled in the art to which this invention pertains having the benefit of the teachings presented in the foregoing descriptions and the associated drawings. For example, as will be understood by one skilled in the relevant field in light of this disclosure, the invention may take form in a variety of different mechanical and operational configurations. As a particular example, in certain embodiments, the applicator cup may be sufficiently thick to allow a user to grip the cup substantially without touching the applicator. Therefore, it is to be understood that the invention is not to be limited to the specific embodiments disclosed and that modifications and other embodiments are intended to be included within the scope of the appended

claims. Although specific terms are employed herein, they are used in a generic and descriptive sense only and not for the purposes of limitation.

We claim:

1. A motorized makeup applicator comprising:

(A) a motorized applicator support comprising:

a base portion;

a first coupling assembly that is configured for allowing a user to selectively couple any particular one of a plurality of different types of makeup applicators adjacent said base portion; and

a motor for selectively rotating a makeup applicator that is mounted, via said first coupling assembly, adjacent said base portion; and

(B) a first makeup applicator cup, comprising:

a substantially cylindrical applicator body portion comprising:

a side wall;

a top face; and

a bottom face, wherein said applicator body portion defines a substantially cylindrical applicator-receiving recess adjacent said top face;

a second coupling assembly adjacent said bottom face configured for cooperating with said first coupling assembly to maintain said first makeup applicator cup adjacent said base portion of said motorized applicator support; and

at least one applicator comprising at least one bristle, wherein the at least one bristle is disposed at least partially within said applicator-receiving recess; wherein:

said applicator body portion is configured to maintain said at least one applicator at least partially within said applicator-receiving recess;

said bottom face separates said applicator receiving recess from said second coupling assembly so that said applicator receiving recess is not in fluid communication with said second coupling assembly; and

said motor is configured to rotate said first makeup applicator cup with respect to said base portion about a central axis when said first makeup applicator cup is coupled adjacent said motorized applicator support.

2. The motorized makeup applicator of claim 1, wherein said motor is configured to apply a torque of between about 6 and about 34 ounce inches to said first makeup applicator cup when said first makeup applicator cup is coupled adjacent said motorized applicator support.

3. The motorized makeup applicator of claim 2, wherein said motorized applicator support is configured to enable said user to adjust said torque that said motor applies to said first makeup applicator cup when said first makeup applicator cup is coupled adjacent said motorized applicator support.

4. The motorized makeup applicator of claim 1, wherein: said base portion of said motorized applicator support defines a substantially circular recess having a diameter that is substantially similar to a diameter of said applicator body portion; and

said applicator body portion is disposed at least partially within said recess when said first makeup applicator cup is coupled adjacent said motorized applicator support.

5. A motorized makeup applicator comprising:

(A) a motorized applicator support comprising,

a base portion;

a first coupling assembly that is configured for allowing a user to selectively couple any particular one of a

plurality of different types of makeup applicators adjacent said base portion; and

a motor for selectively rotating a makeup applicator that is mounted, via said first coupling assembly, adjacent said base operation; and

(B) a first makeup applicator cup, comprising,

a substantially cylindrical applicator body portion comprising:

a side wall;

a top face; and

a bottom face, wherein said applicator body portion defines a substantially cylindrical applicator-receiving recess adjacent top face;

a second coupling assembly adjacent said bottom face configured for cooperating with said first coupling assembly to maintain said first makeup applicator cup adjacent said base portion of said motorized applicator support; and

at least one applicator disposed at least partially within said applicator-receiving recess, wherein:

said applicator body portion is configured to maintain said at least one applicator at least partially within said applicator-receiving recess;

said bottom face separates said applicator receiving recess from said second coupling assembly so that said applicator receiving recess is not in fluid communication with said second coupling assembly; and

said motor is configured to rotate said first makeup applicator cup with respect to said base portion about a central axis when said first makeup applicator cup is coupled adjacent said motorized applicator support

wherein

said base portion of said motorized applicator support defines a substantially circular recess having a diameter that is substantially similar to a diameter of said applicator body portion; and

said applicator body portion is disposed at least partially within said recess when said first makeup applicator cup is coupled adjacent said motorized applicator support

said applicator body portion comprises at least one finger grip disposed adjacent said top face of said applicator body portion that extends radially outward from an outer portion of said side wall of said applicator body portion; and

said at least one finger grip is configured to enable said user to selectively couple said first makeup applicator cup adjacent said base of said motorized applicator support substantially without said user touching said at least one applicator.

6. The motorized makeup applicator of claim 5, wherein said at least one applicator is a makeup brush.

7. The motorized makeup applicator of claim 6, wherein: said at least one applicator comprises a makeup brush comprising a plurality of bristles disposed at least partially within said applicator-receiving recess; and said motorized applicator support is configured to enable said user to use said motorized applicator support and said first makeup applicator cup to rotationally apply a first cosmetic to a first portion of said user's body.

8. The motorized makeup applicator of claim 7, wherein: said at least one finger grip comprises at least two finger grips; and

said at least two finger grips are disposed on opposing outer portions of said applicator body portion.

## 11

9. The motorized makeup applicator of claim 7, wherein: said at least one finger grip extends substantially around an entire circumference of said side wall of said applicator body portion.
10. A motorized makeup applicator comprising: 5  
 (A) a motorized applicator support comprising:  
 a base portion;  
 a first coupling assembly that is configured for allowing a user to selectively couple any particular one of a plurality of different types of makeup applicators adjacent said base portion; and 10  
 a motor for selectively rotating a makeup applicator that is mounted, via said first coupling assembly, adjacent said base portion; and  
 (B) a first makeup applicator cup, comprising: 15  
 a substantially cylindrical applicator body portion comprising:  
 a top face;  
 a bottom face; and  
 at least one finger grip extending radially outward 20  
 from an outer surface of said applicator body portion adjacent said top face, wherein said applicator body portion defines a substantially cylindrical applicator-receiving recess adjacent said top face;  
 a second coupling assembly adjacent said bottom face 25  
 configured for cooperating with said first coupling assembly to maintain said first makeup applicator cup adjacent said base portion of said motorized applicator support; and  
 a plurality of bristles disposed at least partially within said applicator-receiving recess, said plurality of bristles being disposed substantially parallel to a central axis of said first makeup applicator cup; 30  
 wherein  
 said applicator body portion is configured to maintain said plurality of bristles at least partially within said applicator-receiving recess;  
 said motor is configured to rotate said first makeup applicator cup with respect to said base portion about said central axis when said first makeup applicator cup is coupled adjacent said motorized applicator support; 35  
 said motorized applicator support is configured to enable said user to use said motorized applicator support and said first makeup applicator cup, to rotationally apply a first cosmetic to a first portion of said user's body; and 40 45

## 12

- said at least one finger grip is configured to enable said user to selectively couple said first makeup applicator cup adjacent said base of said motorized applicator support substantially without touching said plurality of bristles.
11. The motorized makeup applicator of claim 10, further comprising:  
 a second makeup applicator, comprising:  
 a substantially cylindrical second applicator body portion comprising:  
 a second top face; and  
 a second bottom face, wherein said second applicator body portion defines a substantially cylindrical second applicator-receiving recess adjacent said second top face;  
 a third coupling assembly adjacent said second bottom face configured for cooperating with said first coupling assembly to maintain said second makeup applicator adjacent said base portion of said motorized applicator support; and  
 at least one second applicator disposed at least partially within said second applicator-receiving recess, wherein:  
 said motor is configured to rotate said second makeup applicator with respect to said base portion about said central axis when said second makeup applicator is coupled adjacent said motorized applicator support.
12. The motorized makeup applicator of claim 10, wherein:  
 said base portion of said motorized applicator support defines a substantially circular recess having a diameter that is substantially similar to a diameter of said applicator body portion;  
 said at least one finger grip extends substantially around an entire circumference of said outer surface of said applicator body portion;  
 said applicator body portion is disposed at least partially within said recess when said first makeup applicator cup is coupled adjacent said motorized applicator support; and  
 a lower portion of said at least one finger grip is substantially in contact with an upper surface of said base portion of said motorized applicator support while said applicator body portion is disposed at least partially within said recess.

\* \* \* \* \*